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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,479	01/22/2001	Toshiyoshi Yamamoto	46890-466	1182

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EXAMINER

SONG, HOON K

ART UNIT PAPER NUMBER

2882

DATE MAILED: 01/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,479

Applicant(s)

YAMAMOTO ET AL.

Examiner

Hoon K Song

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 1-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to because Figure 3B needs to be written in English. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1-14 are objected to because of the following informalities: Clean copy of amended claim is required. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

- (e) the invention was described in-
- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
 - (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Williams et al. (US 6292535B1).

Regarding claim 1, Williams teaches an X-ray photographic equipment an image correction means (12) for improving picture quality of an X-ray photographic image by correcting dispersion in brightness of the image obtained by taking an X-ray photograph of a subject body (11S), using a pixel correction factor acquired from a brightness data

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representing gradation of an image obtained by taking an X-ray photograph of a reference subject (10A) (column 1 line 11+).

Regarding claim 2, Williams teaches that wherein said pixel correction factor for improvement of picture quality acquired from the brightness data representing gradation of the image obtained by taking the X-ray photograph of said reference subject is set therein for each pixel individually (column 1 line 64+).

Regarding claim 3, Williams teaches a value acquired by dividing a predetermined brightness reference value with a brightness value of each pixel in the image obtained by taking the X-ray photograph of said reference subject is used as a pixel correction factor for said pixel (34D, column 6 line 65+).

Regarding claim 4, Williams teaches that said image correction means for improving picture brightness of each pixel by multiplying a brightness value of said pixel in the image obtained by taking the X-ray photograph of said subject body by said pixel correction factor of the corresponding pixel acquired by taking the X-ray photograph of said reference subject (column 6 line 65+).

Regarding claim 5, Williams teaches a value acquired by dividing an average value of brightness of the image obtained by taking the X-ray photograph of said reference subject with the brightness value of each pixel is used as a pixel correction factor for said pixel (column 6 line 29+).

Regarding claim 6, Williams teaches that said image correction means for improving picture quality corrects brightness of each pixel by multiplying a brightness value of said pixel in the image obtained by taking the X-ray photograph of said subject

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body by said pixel correction factor of the corresponding pixel acquired by taking the X-ray photograph of said reference subject (column 6 line 65+).

Regarding claim 7, Williams teaches a value acquired by dividing a representative value of brightness of the image obtained by taking the X-ray photograph of said reference subject with the brightness value of each pixel is used as a pixel correction factor for said pixel (column 5 line 60+).

Regarding claim 8, Williams teaches that said image correction means for improving picture quality corrects brightness of each pixel by multiplying a brightness value of said pixel in the image obtained by taking the X-ray photograph of said subject body by said pixel correction factor of the corresponding pixel acquired by taking the X-ray photograph of said reference subject (column 6 line 65+).

Regarding claim 9, Williams teaches urethane resin for typifying a soft-tissue equivalent material representing muscles and adipose tissue is used as a reference subject for acquiring said pixel correction factor for improvement picture quality (attenuators).

Regarding claim 10, Williams teaches any of epoxy resin and aluminum typifying a bone-tissue equivalent material is used as a reference subject for acquiring said pixel correction factor for improvement picture quality (attenuators).

Regarding claim 11, Williams teaches a storage means for storing a pixel correction factor for each pixel obtained by taking the X-ray photograph of said reference subject, and a correction factor setting means for setting a pixel correction factor, other than ordinary X-ray photography, in order to acquire said pixel correction

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factor, wherein said X-ray photographic equipment can be operated for resetting a pixel correction factor for improvement of picture quality at an arbitrary timing when said equipment is first installed, when a user determines it necessary, and so on (column 9 line 47+).

Regarding claim 12, Williams teaches an X-ray photographic equipment comprising:

a storage means for storing a pixel correction factor for each pixel obtained by taking an X-ray photograph of a reference subject (computer);

a correction factor setting means for setting a pixel correction factor, other than ordinary X-ray photography, in order to acquire said pixel correction factor (12); and

a correction means for correcting brightness of an image obtained by taking an X-ray photograph of a subject body using said pixel correction factor, wherein said storage means stores three sorts of pixel correction factors obtained by dividing each of three values by a brightness value of said pixel, said three values being an average value and a representative value of brightness of an image obtained by taking the X-ray photograph of said reference subject, and a predetermined reference brightness value, and said correction factor setting means selects one pixel correction factor among said three sorts of pixel correction factors when making correction of brightness of the image obtained by taking the X-ray photograph of said subject body (column 7 line 55+).

Regarding claim 13, Williams teaches 13. X-ray photographic equipment comprising:

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a storage means for storing a pixel correction factor for each pixel obtained by taking an X-ray photograph of a reference subject (computer);

a correction factor setting means for setting a pixel correction factor, other than ordinary X-ray photography, in order to acquire said pixel correction factor (12); and

a correction means for correcting brightness of an image obtained by taking an X-ray photograph of a subject body using said pixel correction factor, wherein said storage means stores two sorts of pixel correction factors corresponding to a soft-tissue equivalent material and a bone-tissue equivalent material by taking photographs of said two equivalent materials, and said correction factor setting means selects one pixel correction factor between said two sorts of pixel correction factors when making correction of brightness of the image obtained by taking the X-ray photograph of said subject body (column 7 line 55+ and column 8 line 17+).

Regarding claim 14, Williams teaches a plurality of X-ray image sensors are arranged in a manner that a portion of an image-capture area of each said sensors overlaps with one another, in order to take an X-ray image of an expanded size without an error of brightness in the overlapped portion (column 7 line 28+).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon K Song whose telephone number is 703-308-2736. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 703-305-3492. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-746-4858 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hoon K. Song
January 7, 2003


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